RFpeople

ET 03-137, the NPRM on RF Exposure Guidelines

Response to Comments on Spatial Averaging

We respectfully submit these comments to the Commission:

There have been many comments that reference spatial averaging.

We agree that in some situations it is difficult to find absolute peaks of a field using most measurement equipment available, however even a 'near' peak measurement would better estimate partial body exposure than spatial averaging over the entire body. This however is difficult to define as a repeatable procedure. A better solution may be to simply define smaller regions of the body over which an average is taken. The maximum of theses partial body averages is than used.

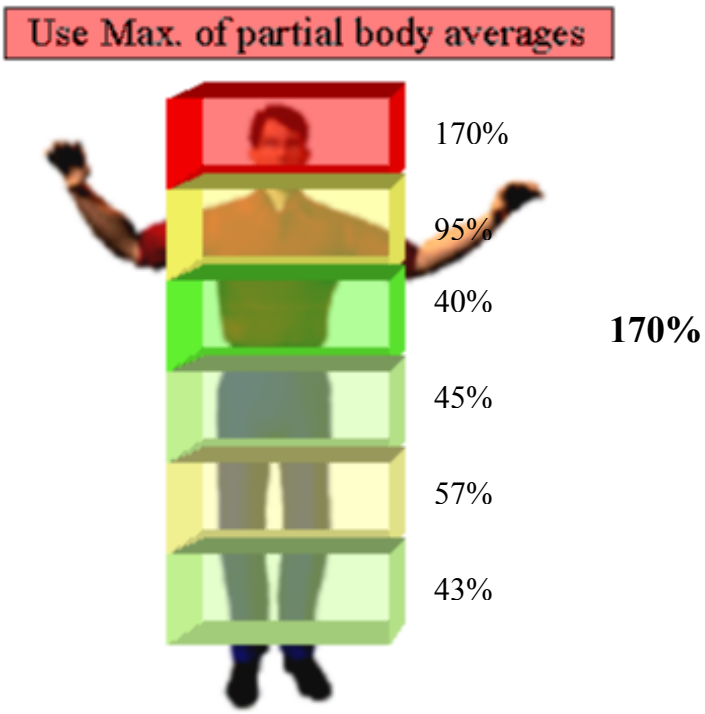

Figure 1 Notional Partial Body Spatial Averaging

Note 1: We believe this method is preferable since it better captures not only partial body exposure, but additionally is better suited for workers of differing stature as well as those who are not simply walking, but also those in other positions such as sitting, crouching, kneeing, etc. as they perform work.

Note 2: Regardless of technique, a number of other issues related to the current state of measurements on rooftops regarding the type of equipment used (common shaped probes) and the state of emitters on the rooftop during measurements (usually not measured at full power) are not addressed here.

Picture 1. Various antennas, with various heights, lengths, powers, and frequencies.

Some have suggested Safety Code 6 or other methodologies as alternatives to current practice, however none of these methodologies address the issue of near field exposure to emitters with different height, size, directionality, frequency and power and the potential for high partial body exposure. On rooftops, people can be in close proximity to thse antennas. The variation between maximum and minimum over the area of the body may be influenced by many factors creating a maximum to minimum difference that cannot be justifiably averaged. Some people disagree with this point and believe that full body spatial averaging is correct in all circumstances. We agree that it is often effective, however in our opinion, enough situations exist, particularly in close proximity to antennas, where it is not effective and potentially harmful.

We believe the use of spatial peak or as suggested here, a localized or partial body average is a better approach to helping ensure safety than current spatial averaging techniques.

Tim Noyes
RFpeople, LLC
48 Brooke Crest Lane
Stafford, VA 22554
tnoyes@rfpeople.com
www.rfpeople.com